



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,858	02/14/2002	Dan A. Steinberg	23091/25	8738

21710 7590 09/09/2004

BROWN, RUDNICK, BERLACK & ISRAELS, LLP.
BOX IP, 18TH FLOOR
ONE FINANCIAL CENTER
BOSTON, MA 02111

EXAMINER

STEIN, STEPHEN J

ART UNIT	PAPER NUMBER
----------	--------------

1775

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,858

Applicant(s)

STEINBERG ET AL.

Examiner

Stephen J Stein

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-16, 20, 23 and 25 is/are rejected.
- 7) ☒ Claim(s) 17-19, 21, 22, 24 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/9/2004 (two).
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on August 9, 2004 has been entered.

Information Disclosure Statement

3. The examiner queries whether the published US Patent application 2003/0067069 cited on the PTO-1449 received August 9, 2004 was actually intended to be cited by applicants. The reference does not appear to be related to the subject matter of the application and has a different inventor than that cited on the PTO-1449.

Claim Rejections - 35 USC § 102

4. Claims 10, 12-14 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,738,145 (Sherrer '145).

Sherrer '145 teaches a micromachined optical fiber sensor comprising a single crystal silicon substrate, an etched fiber stop whole having two level stop hole (pit) where a hole is disposed in the center of a v-shaped pit and through the substrate (See Figure 12 and col. 7, lines 38-53). Sherrer '145 further teaches that an optical fiber disposed in the hole (See Figure 12).

With regard to the process limitations recited in the claims (e.g. wet etched, dry etched), process limitations in product claims are generally not dispositive on patentability unless it is shown that the process limitations produce a materially different product. MPEP §2113.

5. Claims 15, 16, 20 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,257,772 (Nakanishi et al.).

Nakanishi teaches a photodetector module comprising a planar <100> silicon substrate having a first etched v-groove (35) in the substrate, a second etched v-groove (34) in the substrate, wherein the second etched v-groove (34) extends in the substrate deeper than the first groove, and a pit in the shape of a linear trench (36) disposed between and adjacent to the first and second pits (See Figure 31). With regard to the process limitations recited in the claims (e.g. wet etched, dry etched), process limitations in product claims are generally not dispositive on patentability unless it is shown that the process limitations produce a materially different product. MPEP §2113.

Claim Rejections - 35 USC § 103

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherrer '145.

As stated above, Sherrer '145 teaches a micro-machined optical fiber sensor comprising a single crystal silicon substrate, an etched fiber stop whole having two level stop hole (pit) where a hole is disposed in the center of a v-shaped pit and through the substrate.

Although Sherrer '145 fails to specifically teach that the single crystal silicon substrate is <100> silicon, it would have been obvious to use <100> silicon for the micromachined substrate

Art Unit: 1775

of the optical fiber sensor disclosed Sherrer '145 since micromachined silicon substrates are conventionally known to use <100> silicon. (See US 5,045,041).

Allowable Subject Matter

7. Claims 17-19, 21, 22, 24 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

While the prior art of record teaches the micromachined structures claimed in independent claims 10 and 15, the prior art of record fails teach or suggest the added limitations in dependent claims 17-19, 21, 22, 24 and 26.

Response to Arguments

9. In response to new prior art cited by applicants in their IDS filed in conjunction with an RCE filed after a notice of allowance, the indication of the allowability of claims 10-16, 20, 23 and 25 has been withdrawn. New rejections have been made in view of new art of record.

Conclusion

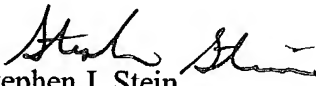
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Stein whose telephone number is 572-272-1544. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m. If the attempts to reach the examiner are unsuccessful, the examiner's supervisor, Deborah Jones can be reached by dialing 571-272-1535. The official fax number is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 1775

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 4, 2004


Stephen J. Stein
Primary Examiner
Art Unit 1775